

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): ~~A Method~~ method for
2 identifying a momentary acoustic scene, said method including
3 - an extraction, during an extraction phase, of
4 characteristics ~~features~~ from an acoustic signal
5 captured by at least one microphone (2a, 2b),
6 wherein at least auditory-based characteristics are
7 ~~identified~~ extracted and
8 - an identification, during an identification phase, of
9 the momentary acoustic scene on the basis of the
10 extracted characteristics by mapping the extracted
11 characteristics to specific individual sound sources
12 and
13 - selecting and executing a ~~suitable~~ process from a
14 plurality of available processes based on the
15 identified momentary acoustic scene.

1 Claim 2 (previously amended): Method as in claim 1,
2 wherein, for the identification of the characteristic features
3 during the extraction phase, Auditory Scene Analysis (ASA)
4 techniques are employed.

1 Claim 3 (previously amended): Method as in claim 1,
2 wherein, during the identification phase, Hidden Markov Model
3 (HMM) techniques are employed for the identification of the
4 momentary acoustic scene.

1 Claim 4 (previously amended): Method as in claim 1,
2 wherein at least one of the following auditory characteristics
3 are identified during the extraction of said characteristic
4 features: loudness, spectral pattern, harmonic structure,

5 common build-up and decay processes, coherent amplitude
6 modulations, coherent frequency modulations, coherent
7 frequency transitions and binaural effects.

1 Claim 5 (previously amended:) Method as in claim 1,
2 wherein at least one non-auditory characteristic is identified
3 in addition to the auditory characteristics.

1 Claim 6 (previously amended): Method as claim 1, wherein
2 the auditory characteristics are grouped along Gestalt theory
3 principles.

4 Claim 7 (previously amended): Method as in claim 6,
2 wherein the extraction of characteristics and/or the grouping
3 of the characteristics are performed either in context-free or
4 in context-sensitive fashion, and further including the step
5 of taking into account information relative to a signal
6 content to thereby provide an adaptation to the acoustic
7 scene.

1 Claim 8 (previously amended): Method as in claim 1,
2 wherein, during the identification phase, data are accessed
3 which were acquired in an off-line training phase.

1 Claims 9-18 (canceled).

1 Claim 19 (currently amended): A method for identifying
2 and selecting an appropriate process for analyzing an acoustic
3 signal, said method including

4 - an extraction, during an extraction phase, of
5 characteristics ~~features~~ from said acoustic signal,
6 wherein at least auditory-based characteristics are
7 extracted identified;

- 8 - an identification, during an identification phase, of a
9 momentary acoustic scene on the basis of the
10 extracted characteristics by mapping the extracted
11 characteristics to specific individual sound
12 sources;
13 - selecting a ~~suitable~~ process for analyzing the acoustic
14 signal based on the identified momentary acoustic
15 scene, wherein said suitable process is chosen from
16 a plurality of available processes; and
17 - executing said selected ~~suitable~~ process to generate a
18 processed acoustic signal.

P 1 Claim 20 (previously added): The process of claim 19,
2 wherein said extraction includes the step of analyzing the
3 acoustic structure of the acoustic signal for identifying
4 tonal signals in acoustical signals generated by speech and
5 tonal signals generated by music.

1 Claim 21 (previously added): The process of claim 19,
2 wherein said extraction applies the principles of gestalt
3 analysis for acoustical signals generated by speech and tonal
4 signals generated by music.

1 Claim 22 (previously added): The process of claim 21,
2 wherein said gestalt analysis includes examining a qualitative
3 property chosen from the group consisting of continuity,
4 proximity, similarity, common density, unit, and good
5 constancy.

1 Claim 23 (previously added): The process of claim 19,
2 wherein said executing said selected suitable process includes
3 the step of processing said acoustic signal to generate a
4 hearing signal for improving the hearing ability of a user.

1 Claim 24 (previously added): The process of claim 19
2 further including the step of generating an audio signal from
3 said processed acoustic signal for transmission to a user.

1 Claim 25 (currently amended): A method for identifying
2 and selecting an appropriate process for analyzing an acoustic
3 signal, said method including

- 4 - an extraction, during an extraction phase, of
5 characteristics ~~features~~ from said acoustic signal
6 including the step of analyzing the acoustic
7 structure of the acoustic signal for identifying
8 tonal signals in acoustical signals generated by
9 speech and tonal signals generated by music, wherein
10 at least auditory-based characteristics are
11 extracted identified; and
12 - an identification, during an identification phase, of a
13 momentary acoustic scene on the basis of the
14 extracted characteristics by mapping the extracted
15 characteristics to specific individual sound
16 sources, and further wherein said identification
17 includes the use of hidden markov models; and
18 - selecting a ~~suitable~~ process for analyzing the acoustic
19 signal based on the identified momentary acoustic
20 scene, wherein said suitable process is chosen from
21 a plurality of available processes for improving the
22 hearing ability of a user;
23 - executing said selected ~~suitable~~ process, said
24 executing including the step of processing said
25 acoustic signal to generate a processed audio
26 signal; and
27 - generating an audio signal from said processed acoustic
28 signal for transmission to said user.

1 Claim 26 (new): A method for identifying and selecting an
2 appropriate process for analyzing an acoustic signal, said
3 method including:

- 4 - an extraction of at least auditory-based characteristic
5 features from an acoustic signal, wherein said
6 auditory characteristics include one or more of:
7 volume, spectral pattern, harmonic structure, common
8 build-up and decay times, coherent amplitude
9 modulations, coherent frequency modulations,
10 coherent frequency transitions, and binaural
11 effects; and
12 - an identification of the momentary acoustic scene on
13 the basis of the characteristics not limited to
14 speech characteristics; and
15 - automatically selecting a hearing process for execution
16 by a hearing device from a plurality of available
17 processes based on the identified momentary acoustic
18 scene.

1 Claim 27 (new): The method of claim 26, wherein said
2 identification includes at least a determination of whether
3 the momentary acoustic scene includes speech, music, or some
4 other auditory activity.

1 Claim 28 (new): The method of claim 26, further
2 comprising a step of grouping the characteristic features
3 according to: continuity, proximity, similarity, common
4 density, unit, and good constancy; wherein said grouping
5 supports the identification of the momentary acoustic scene.

1 Claim 29 (new): A method for identifying a momentary
2 acoustic scene for a hearing device, said method including

- 3 - an extraction, during an extraction phase, of
4 characteristics from an acoustic signal captured by
5 at least one microphone, wherein at least auditory
6 characteristics are extracted and
7 - an identification, during an identification phase, of
8 the momentary acoustic scene on the basis of the
9 extracted characteristics; and
10 - selecting and executing a process for execution in a
11 hearing device from a plurality of available
12 processes based on the identified momentary acoustic
13 scene.

1 Claim 30 (new): The method of claim 29, further
2 comprising a step of grouping the characteristic features
3 according to: continuity, proximity, similarity, common
4 density, unit, and good constancy; wherein said grouping
5 supports the identification of the momentary acoustic scene.

1 Claim 31 (new): The process of claim 29, wherein said
2 execution generates a processed acoustic signal, said process
3 further including the step of said hearing device generating
4 an audio signal from said processed acoustic signal for
5 transmission to a user to aid the hearing of the user.
